

Serial No. 09/938,205

**IN THE CLAIMS.**

*Please amend the following claims as indicated:*

(Once Amended) 1. A process of manufacturing a metal sheet precoated with an antimicrobial polymer coating, comprising:

providing a metal sheet substrate having two opposed planar surfaces comprising a base metal selected from the group consisting of aluminum, iron, nickel, titanium, molybdenum, magnesium, manganese, copper, silver, lead, tin, chromium, beryllium, tungsten, cobalt and alloys thereof;

cleaning the surface of the substrate wherein cleaning comprises removing bulk and molecular organic contaminants;

pretreating at least one planar surface of the substrate to promote adhesion of a polymer coating;

applying a polymer coating onto at least one planar surface of the substrate by roll coating the substrate with a polymer containing an anti-microbial powder comprising core particles associated with an antimicrobial metal component;

wherein the content of the antibiotic powder is in the range of from about 0.2 to about 30 weight percent of the polymeric coating;

wherein the core particle comprises one or more particles selected from the group consisting of: oxides selected from the group consisting of titanium, aluminum, zinc and copper oxides, sulfates selected from the group consisting of calcium, strontium and barium sulfates, sulfides selected from the group consisting of zinc and copper sulfides, zeolites, zirconium phosphate, mica, talc, kaolin, mullite, silica and mixtures thereof;

wherein the antimicrobial metal component is selected from the group consisting of silver, copper, zinc, mercury, tin, lead, bismuth, cadmium, chromium, cobalt, nickel, and thallium ions and mixtures thereof; and

treating the coated substrate to produce at least a partially hardened and adhered antimicrobial coating on the final sheet product.

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(Once Amended) The process of claim 3 wherein the base metal is selected from the group consisting of steel alloys, zinc coated steel, aluminum coated steel, zinc aluminum coated steel, zinc alloys, aluminum alloys and nickel alloys.

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(Once Amended) The process of claim 3 wherein the base metal is selected from the group consisting essentially of copper alloys, brass, bronze, silicon bronze, silicon-brass, nickel silver and nickel bronze.

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(Once Amended) The process of claim 21 wherein the metal substrate is predominantly galvanized steel or steel and wherein the phosphating composition includes boric acid in an amount of at least 0.02 moles/liter.

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(Once Amended) The process of claim 13 wherein the polymer is an organic polymer material selected from the group consisting of acetate rayon, acrylic resins, acrylonitrile-butadiene-styrene resins and acrylic resins, aliphatic and aromatic polyamides, aliphatic and aromatic polyesters, allyl resins, butadiene resins, chlorinated polyethylene, conductive resins, copolymerised polyamides, copolymers of ethylene and vinyl acetate, cuprammonium rayons and natural and synthetic rubbers, EEA resins, epoxy resins, ether ketone resins, ethylene vinyl alcohol, fluorine resins, fluorocarbon polymers, fluoroplastics, high density polyethylenes, ionomer resins, liquid crystal polymer, low density polyethylenes, melamine formaldehyde, natural polymers, nylons, phenol-formaldehyde plastic, phenolic resins, polyacetal, polyacrylates, polyacrylonitrile, polyamide, polyamide-imide, polyaryletherketone, polybutadiene, polybutylene terephthalate, polybutylene, polycarbonate, polycarbonates, polydicyclopentadiene, polyketones, polyester block copolymers, polyesters, polyesterurethane, polyesterurethaneurea, polyether and polyester block polymers, polyether ketoneketone polyetherether ketone polyetherimide, polyethers, polyethersulfone, polyetherurethane, polyetherurethaneurea, polyethylene isophthalate, polyethylene terephthalate, polyethylene, polyethylenechlorinates, polyglycolic acid, polyhexamethylene terephthalate, polyimide, polylactic acid, polymethylpentene, poly-m-phenylene isophthalamide, polyolefins, polyphenylene oxide, polyphenylene sulfide, polyphthalamide, poly-p-phenylene terephthalamide, polypropylene, polysiloxanes, polystyrene, polysulfides,

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ac polysulfone, polytetrafluoroethylene, polyurethane, polyvinyl acetate, polyvinyl alcohols, polyvinylchloride, polyvinylidene chloride, polyvinylidene fluoride and polyvinyl fluoride, rayon, reconstituted silk and polysaccharides, reinforced polyethylene terephthalate resins, segmented polyurethane elastomers, silicone resins, elastane elastomers, styrene-type specific resins, thermoplastic polyurethane elastomers, phenol-formaldehyde copolymer, triacetate rayon, unsaturated polyester resins, urea resins, urethane resins, vinyl chloride resins, vinyl polymers, vinylidene chloride resins and copolymers, terpolymers and mixtures thereof.

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(Once Amended) The process of claim 44 wherein the zeolite is ion-exchanged with one or more additional metal ions selected from the group consisting of silica, silicates, silicon dioxide, borosilicates, aluminosilicates, alumina, aluminum phosphate, zinc, zinc oxide, zinc silicate, copper, copper oxide, and mixtures thereof.

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(Once Amended) The process of claim 53 wherein the additional metal ions comprise from about 0.1 to about 20% by weight, based on anhydrous zeolite plus metal.

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(Once Amended) The process of claim 44 wherein the roll coater is a two-roll coater.

Attached hereto is a marked-up version of the changes made to the specification and claims by this current amendment. This page is located at the end of this response and is captioned "Version with Markings to Show Changes Made."